

# Time for a Culture Change?

A Look at the New “Gold Standard” in MRSA Surveillance



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Bring answers to life.

# Financial Impact of MRSA Infections at an Average U.S. Hospital:

Numerous published studies demonstrate the incremental costs associated with MRSA infections. The results point to the staggering financial impact associated with potential MRSA infections.

MRSA Infection (BSI, SSTI, RTI, UTI) results in **\$23,783** in excess costs<sup>1</sup>

The average in-patient LOS increases up to **9 days** with an MRSA infection<sup>2</sup>



$$8,395^3 \times 4.63\%^4 \times 19\%^{15} \times \$23,783^1$$

annual admissions
MRSA Prevalence
Progress to Infection
per infection

**\$1,756,394**

additional costs due to MRSA infections

## Understanding Active Surveillance Models:

Guilty Until Proven Innocent:

Isolate patient until MRSA (pos) or MRSA (neg) result is reported.

or

Innocent Until Proven Guilty:

Isolate patient after an MRSA (pos) result is reported.

## The Three Most Common MRSA Testing Options Available:

	Option 1	Option 2	Option 3
	<b>Culture Media</b>	<b>Batched PCR</b>	<b>Cepheid On-Demand PCR</b>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Low price per test</li> <li>• On hand – micro lab only</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitivity</li> <li>• Time to result is 2-12 hours</li> <li>• Faster than culture</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitivity</li> <li>• Fast – 2 hour result</li> <li>• Optimizes both isolation strategies                             <ul style="list-style-type: none"> <li>- Reduces isolation costs</li> <li>- Reduces transmission opportunity time</li> </ul> </li> <li>• Optimal return on investment</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• 18-48 hour delayed action</li> <li>• High cost of unnecessary isolation (most patients are MRSA negative)</li> <li>• Opportunity cost of transmission</li> <li>• Complicated – CLIA highly complex</li> </ul>	<ul style="list-style-type: none"> <li>• 3-72 hour delayed action (19-22 hour avg. TAT)</li> <li>• Increased cost with no TAT improvement</li> <li>• Complicated – CLIA highly complex</li> <li>• Suboptimal return on investment</li> </ul>	<ul style="list-style-type: none"> <li>• Cost benefit misperceptions</li> </ul>

# The Limitations of Culture Based Surveillance: Slow & May Miss MRSA Positives:

In different studies, data shows culture may miss MRSA (positive) results up to 1/3 of the time

Study 1

**33%-36% Missed Positives<sup>6</sup>**

Study 2

**25%-32% Missed Positives<sup>7</sup>**

Study 3

**16%-24% Missed Positives<sup>8</sup>**

## A Dynamic Reimbursement Environment:

Effective October 1, 2008

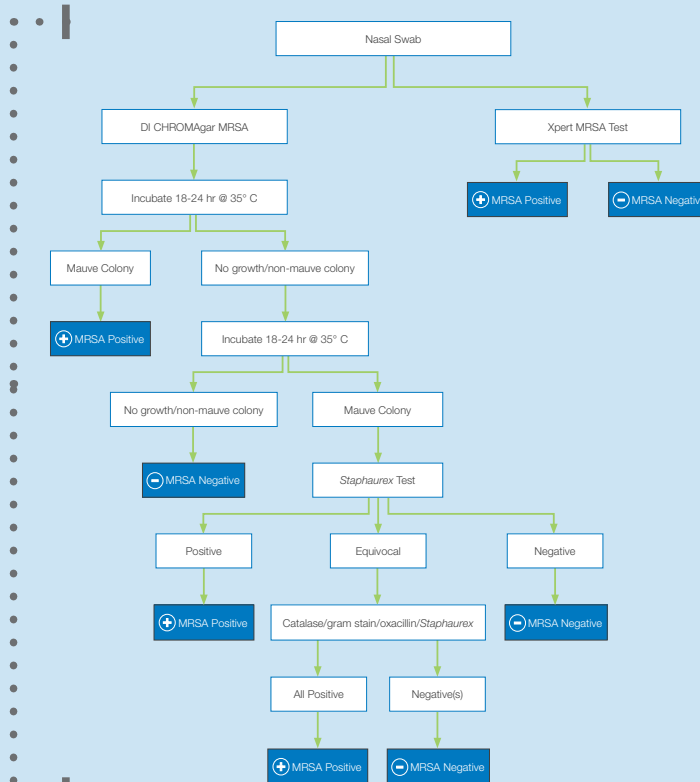
CMS will no longer pay for certain hospital acquired conditions (HAC) unless they were present on admission<sup>9</sup>

- UTI
- Vascular catheter associated infection
- Mediastinitis
- SSI following certain orthopedic and gastric procedures

**MRSA can cause any of these infections**

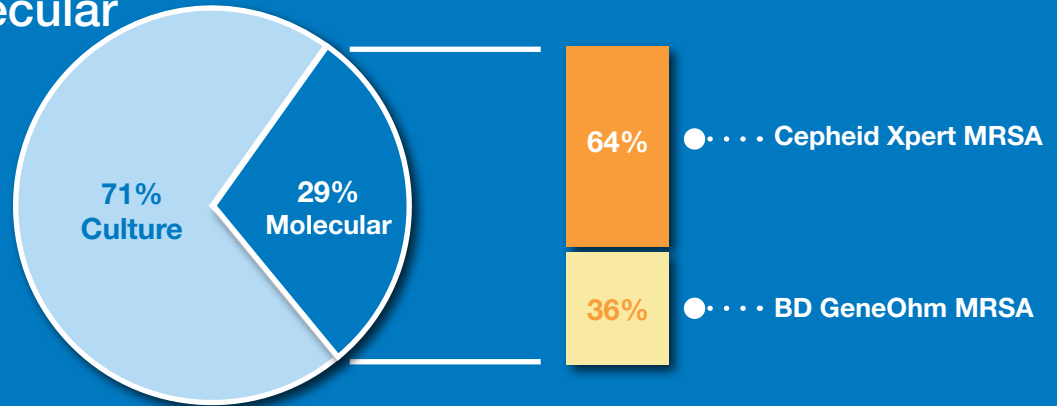
## Workflow comparison<sup>5</sup>:

Rapid Culture Workflow



Xpert™ MRSA Workflow

## The Most Preferred Molecular MRSA Test<sup>10</sup>:



## First Year Results in Hospitals Using Xpert™ MRSA:

Hospital/Program	Published drop in MRSA Infection Rate
Loyola University Medical Center <sup>11</sup> Universal Screening	<b>66%</b>
New England Baptist Hospital <sup>12</sup> Pre-Surgical Screening	<b>60%</b>
VA Palo Alto <sup>13</sup> ICU	<b>79%</b>
Albert Einstein Medical Center <sup>14</sup> 2 State of PA Program Awards	<b>30%</b>

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